# WSDOT I-90 Four Lakes to Stateline Operations Study

## STUDY ADVISORY GROUP MEETING SUMMARY

Date: December 13, 2016
Time: 9:00 AM to 12:00 PM

Location: WSDOT Eastern Region East/West Spokane County Conference Room, 2714 N. Mayfair St., Spokane, WA 99207

Purpose: The Study Advisory Group Meeting provided stakeholders with the opportunity to raise issues and needs related to incident management, traveler information and performance data, and traffic operations on the I-90 corridor. The meeting also engaged stakeholders in a discussion of goals for I-90 and the opportunities and challenges to achieving the desired outcomes for performance.

## I. Attendees

Chuck Arnold, Washington State Police
Mike Bjordahl, WSDOT
Branden Blankenagel, City of Spokane
Lisa Corcoran, Spokane International Airport
Mike Frucci, WSDOT
Mike Gribner, WSDOT
Monica Harwood, WSDOT
Charlene Kay, WSDOT
Brian Kitchen, Great West Casualty Insurance
Mike Kress, WSDOT/Spokane Regional Transportation Management Center
Terrence Lynch, WSDOT
Darrel McCollum, WSDOT
Sean Messner, Spokane Valley
Ben Myers, Providence Sacred Heart Medical
Eve Nelson, Spokane Regional Transportation Council
Jim Peters, DKS Associates
Deena Platman, DKS Associates
Steve Robinson, Spokane Good Roads Association
Andrew Rolwes, Downtown Spokane Partnership
Ernie Sims, WSDOT
Andrew Staples, City of Liberty Lake
Glenn Wagemann, WSDOT
Kathleen Weinand, Spokane Transit Authority
Harold White, WSDOT
Larry Frostad, WSDOT

## II. Project Overview and Current Conditions

This study extends along the I-90 corridor from Four Lakes to the Idaho. As a starting point, it provides a systematic inventory of existing conditions related to safety and operational performance of the

corridor. This study will identify the projects that can address the safety and operational issues on the corridor. WSDOT has $4.8 million in funding set aside for safety enhancements. WSDOT staff provided the following context for the operations of the I-90 Corridor:

- North Spokane corridor is approximately 12 years away from being built to connect to I-90
- WSDOT is looking at low cost operations strategies to manage congestion and safety for those 12 years

DKS provided an overview of current conditions related to safety and operations on the corridor:

- 2,393 crashes in the last five years
- Crashes occur on 93% of days
- Current crash hot spots: Maple/4th/Walnut/Division
- Crashes increased 22% although volumes increase about 10%
- Most crashes are rear end and side swipe
- Of the 19 wrong direction crashes in the last five years, 16% were fatal
- All three pedestrian/bike crashes were fatal in the last five years
- Example incident crash was 5:30p.m. to 6:52p.m.
- For every minute a crash is not cleared, the chance for a secondary crash goes up 3.3% per minute
- Top crash days: Wednesday, Thursday, Friday
- AM and PM peak periods are the most common time for crashes
- Winter and summer months have the most crashes
- WSDOT doesn't know what percent of crashes are secondary (but it is 18-20% nationally)
- End of queue warning could be a useful strategy
- WSDOT provides an Incident Response Team on I-90 that respond, investigate, and clear traffic incidents
- There is no active Traffic Incident Management (TIM) coordination group in the area right now, but one could be developed through a coordinated effort between WSDOT, Washington State Patrol, and other responders. This would allow for a clearer understanding of the roles/responsibilities during the incident scene management.

## III. Summary of Feedback

The following tables include feedback from participants that reflect needs along the corridor and its relative priority. Stakeholders were divided into two break out groups and were asked to identify safety and operational performance concerns on I-90 for three categories: incident management, traveler information, and traffic operations. Then were then asked to rank each need as high, medium or low to establish a relative priority for each need.

Incident Management – Issues and needs related to crashes, incident responses, and mode specific impacts

| Identified Need | Description | Priority |
|---|---|---|
| Incident clearance time | Lessen clearance time | High |
| Partnering with local law enforcement | Continued and improved building on WSP partnership | High |
| More IRT coverage | | High |
| TIM partnering | More training, concurrence | High |
| Traffic Routing During Events | Provide unified communication | High |
| Planned work zones | Time of closure versus peak periods | Medium |
| IRT coverage | More staff/trucks needed during peaks and weekends | Medium |
| Special incident timing plans on arterials | | Medium |
| Lack of TIM training | Regular training is needed to build consistency among different EMS (police, fire, etc.) | Medium |
| Emergent work zones | Preparedness to handle safety, minimize impact | Medium |
| Address wrong way & bike/pedestrian facilities | | Medium |
| Manage weather incident | Sunset hill, Broadway curve | Low |
| Traveler Information | Travelers slow down to read information | Low |
| Incidents on viaduct | No space for clearance ops to occur, no towing | Low |

Traveler Information and Performance Data – Issues and needs related to pre-trip and en-route traveler information

| Identified Need | Description | Priority |
|---|---|---|
| Marketing of current resources | Get word out (including non-WSDOT – e.g. Waze) | High |
| Traffic flow during special events | Bottlenecks | High |
| Downtown parking wayfinding | Confusion finding parking/unfamiliar drivers/special events | High |
| Social media use | Twitter, Facebook, etc. | High |
| Expansion of available information | Meaningful, availability, parallel routes | Medium |
| Public/private partnership on traveler information | Weather sensors and congested areas | Medium |

| Identified Need | Description | Priority |
|---|---|---|
| Public Service Announcements | VMS message sign utilization | Medium |
| More VMS needed | | Medium |
| 511 utilization | | Low |
| TMC underutilized by travelers | | Low |

Traffic Operations – Issues and needs related to traffic flow, reliability, weather, road geometry, mode specific impacts

| Identified Need | Description | Priority |
|---|---|---|
| Downtown traffic flow improvements to help with I-90 flow | | High |
| Underutilized local network could be economic benefit | • Separate local versus regional trips<br>• Preserve parallel routes | High |
| Local Trips / Access Using I-90 | Sprague → Hamilton both directions (especially WB) | High |
| Division of EB off | • Evening queueing onto freeway<br>• Monroe on-to Division – off-weave<br>• Shift change of large employers | High |
| Downtown viaduct | • Wayfinding to parking<br>• One way street issue<br>• Spokane County Wayfinding Study recently completed for downtown | High |
| EB PM commute | Platooning of traffic, Hamilton, Altamont exit ramp spacing; Hamilton platoon weave with Altamont off ramp including geometric issues | High |
| Queueing on I-90 – Division EB/Barker EB | PM | High |
| Merging from on-ramps | • EB Maple on<br>• EB 195 on-ramp (geometry issue)<br>• Freya | High |
| Disabled vehicle parking | •<br>• Lack of shoulders between 195 and Hamilton<br>• | High |
| Transit | • Reliable travel time; AVL doesn't have accurate travel time on transit reader boards at the Maribeau park and ride | High |

| Identified Need | Description | Priority |
|---|---|---|
| | location; Transit not competitive | |
| Maple WB off PM | • 4th to NB Walnut movement plugged by queueing on NB Walnut<br>• Signal timing? | High |
| EB from 4th east of Havana | Geometric lack of Accelerating lane length | Medium |
| Lincoln WB off PM | • Queueing on the ramp<br>• Division on Lincoln – off-weave | Medium |
| Address distracted drivers | | Medium |
| Monroe ramp closure for construction/access control | • No complaints<br>• Need equitable access<br>• Consider neighborhood access | Medium |
| Recurring congestion spreading | Freya area | Medium |
| Summertime queueing | Argonne WB off ramp | Medium |
| Mode | Facilities for alternative modes to cross I-90 | Medium |
| Managing Diverting Traffic to local streets when incident on I-90 | | Medium |
| Lack of alternative routes | 3rd, 2nd, Trent, Sprague | Low |
| Aggressive Driving | WB Division on | Low |
| Work zone traffic control | Traffic volumes | Low |
| EB Exit 296 Harvard 1/C | • WB on ramp spacing speed differential<br>• EB in the morning queueing onto I-90 | Low |
| Routing during events | | Low |
| Maple EB off PM | Queueing | Low |
| Sunset Hill | • Chain-up areas (significant weather events)<br>• Exit I-90 to chain up<br>• Sand barrels exist | Low |
| PM EB Liberty Lake | Congestion at signal spills onto I-90 | Low |

Stakeholders were then led through a facilitated discussion to capture their comments and insight into key goals and strategies for the corridor. Following are the collection of stakeholder responses to the prompt questions.

<u>What are the key goals for improving I-90 safety and operations?</u>

- Minimizing conflict points that cause crashes
- Minimizing distraction to drivers
- Maximize existing capacity (within safety guidelines)
- Building/expanding partnerships (TIM,

Sigma Coordination)
- Reducing incident response clearance time
- Reduce initial and secondary crashes
- Improve traveler awareness of conditions
- Mindful of complete transportation network
- Minimize congestion during peak and flow periods
- Reduce fatalities and severe crashes
- Simplify routing at ramp terminals
- Ramp terminal pedestrian crossings
- Improve flow of traveler information through urban core (I-90 and downtown)
- Equitable access
- Utilize TDM to improve efficiency
- I-90 – use it appropriately (reduce ramp to ramp trips)
- Prepare for autonomous vehicles
- Increase coordination between agencies/EMS etc.
- Update existing events plans (e.g. Gonzaga Basketball)
- More ITS infrastructure
- Improve data collection and discrimination/usable congestion data (renew Inrix)
- Explore partnerships with private data suppliers
- Traveler information system lacks coordination amongst agencies

What are the opportunities for achieving key goals?

- Public education (habits, attitudes)
- Reduce crashes by reducing distractions
- Partnerships (TIM, JOPS, SRTMC)
- Manage Access
- Leverage existing infrastructure (i.e. Sigma coordination)
- Manage congestion through technology
- Leverage TDM strategies
- Partner with freight (Think more about this)
- Articulate cost-benefit

What are the barriers to achieving key goals?

- Funding
- Public perception
- Driver behavior
- Availability of infrastructure
- High cost of strategies
- Aging infrastructure
- Available space (existing geometrics)